

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Goelet *et al.*

Docket No.: 13020-2(DIV1)

Serial No.: not yet assigned

Examiner (from parent): Sisson, B.

Filed: herewith

Group Art Unit (from parent): 1655

For: SINGLE NUCLEOTIDE POLYMORPHISMS
AND THEIR USE IN GENETIC ANALYSIS

Kalow & Springut LLP
488 Madison Avenue, 19th Floor
New York, NY 10022

May 1, 2001

Assistant Commissioner for Patents
Washington, DC 20231

TRANSMITTAL OF SEQUENCE LISTING

Sir:

Applicant hereby requests under 37 CFR §1.821(e) the use of the compliant computer readable sequence listing already on file for grand parent application Serial No. 08/216,538 filed March 23, 1994. The paper copy of the attached sequence listing and the computer readable copy of the sequence from grand parent application Serial No. 08/216,538 filed March 23, 1994 are identical except for nonsubstantive differences relating to the attorneys of record. No new matter has been added.

Respectfully submitted,



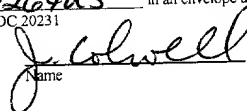
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Certificate of Express Mail Under 37 C.F.R. 1.10

I hereby declare that this correspondence is being deposited with the United States Postal Service via Express Mail Label No. EL841912264US in an envelope addressed to Commissioner of Patents and Trademarks, Washington, DC 20231

5/1/01
Date


Name

SEQUENCE LISTING

(1) GENERAL INFORMATION:

- (i) APPLICANT: GOELET, PHILIP AND KNAPP, MICHAEL R.
- (ii) TITLE OF INVENTION: SINGLE NUCLEOTIDE POLYMORPHISMS AND THEIR USE IN GENETIC ANALYSIS
- (iii) NUMBER OF SEQUENCES: 95
- (iv) CORRESPONDENCE ADDRESS:
 - (A) ADDRESSEE: KALOW & SPRINGUT LLP
 - (B) STREET: 488 MADISON AVENUE 19TH FLOOR
 - (C) CITY: NEW YORK
 - (D) STATE: NY
 - (E) COUNTRY: US
 - (F) ZIP: 10022
- (v) COMPUTER READABLE FORM:
 - (A) MEDIUM TYPE: Floppy disk
 - (B) COMPUTER: IBM PC compatible
 - (C) OPERATING SYSTEM: PC-DOS/MS-DOS
 - (D) SOFTWARE: PatentIn Release #1.0, Version #1.25
- (vi) CURRENT APPLICATION DATA:
 - (A) APPLICATION NUMBER: US
 - (B) FILING DATE:
 - (C) CLASSIFICATION:
- (viii) ATTORNEY/AGENT INFORMATION:
 - (A) NAME: FRANKLIN S. ABRAMS
 - (B) REGISTRATION NUMBER: 43,457
 - (C) REFERENCE/DOCKET NUMBER: 13020-2-DIV
- (ix) TELECOMMUNICATION INFORMATION:
 - (A) TELEPHONE: (212) 813-1600
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(2) INFORMATION FOR SEQ ID NO:1:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
 - (A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:
(B) CLONE: 177-2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

GCAGCTCTAA GTGCTGTGGG

20

(2) INFORMATION FOR SEQ ID NO:2:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:
(A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:
(B) CLONE: 177-2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

TGCAGAAATT CTAAGGTGTT

20

(2) INFORMATION FOR SEQ ID NO:3:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:
(A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:
(B) CLONE: 177-2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

[illegible]

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(2) INFORMATION FOR SEQ ID NO:5:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
 - (A) ORGANISM: *Equus caballus*
- (vii) IMMEDIATE SOURCE:
 - (B) CLONE: 595-3

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

AGCTCTGGGA TGATCCACTA

20

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 20 base pairs
 (B) TYPE: nucleic acid

- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
 - (A) ORGANISM: Equus caballus
- (vii) IMMEDIATE SOURCE:
 - (B) CLONE: 595-3

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

TGAGGGAAAA ATGATGATGC

20

(2) INFORMATION FOR SEQ ID NO:7:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
 - (A) ORGANISM: Equus caballus
- (vii) IMMEDIATE SOURCE:
 - (B) CLONE: 595-3

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

GCATCATCAT TTTCCCTCA

20

(2) INFORMATION FOR SEQ ID NO:8:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO

- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
 - (A) ORGANISM: Equus caballus
- (vii) IMMEDIATE SOURCE:
 - (B) CLONE: 595-3

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

TAGTGGATCA TCCCAGAGCT

20

(2) INFORMATION FOR SEQ ID NO:9:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
 - (A) ORGANISM: Equus caballus
- (vii) IMMEDIATE SOURCE:
 - (B) CLONE: 090-2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

AAACTAATT TGATGGCCAT

20

(2) INFORMATION FOR SEQ ID NO:10:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
 - (A) ORGANISM: Equus caballus
- (vii) IMMEDIATE SOURCE:
 - (B) CLONE: 090-2

090594360

[illegible]

20

(2) INFORMATION FOR SEQ ID NO:12:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: *Equus caballus*

(vii) IMMEDIATE SOURCE:

(B) CLONE: 090-2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

20

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

A AATTAGTTTT

20

(2) INFORMATION FOR SEQ ID NO:13:

ATGGCCATCA AATTAGTTTT

(2) INFORMATION FOR SEQ ID NO:13:

) INFORMATION FOR SEQ ID NO:13:

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) INFORMATION FOR SEQ ID NO:13:

INFORMATION FOR SEQ ID NO:13:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
 - (A) ORGANISM: Equus caballus
- (vii) IMMEDIATE SOURCE:
 - (B) CLONE: 324-1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

CACAAGGCCCC AAGAACAGGA

20

(2) INFORMATION FOR SEQ ID NO:14:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
 - (A) ORGANISM: Equus caballus
- (vii) IMMEDIATE SOURCE:
 - (B) CLONE: 324-1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

TGAGTTCAGC GAGTGTGAGA

20

(2) INFORMATION FOR SEQ ID NO:15:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

T.050"034960

- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
 - (A) ORGANISM: Equus caballus
- (vii) IMMEDIATE SOURCE:
 - (B) CLONE: 324-1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

TCTGACACTC GCTGAACTCA

20

(2) INFORMATION FOR SEQ ID NO:16:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
 - (A) ORGANISM: Equus caballus
- (vii) IMMEDIATE SOURCE:
 - (B) CLONE: 324-1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

TCCTGTTCTT GGCCTTGTG

20

(2) INFORMATION FOR SEQ ID NO:17:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:

(A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:

(B) CLONE: 129-1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

TGGGAAAGAC CACATTATTT

20

(2) INFORMATION FOR SEQ ID NO:18:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:

(B) CLONE: 129-1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

GTTCCCTTTT GTTTCAGACC

20

(2) INFORMATION FOR SEQ ID NO:19:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:

(B) CLONE: 129-1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

TOPO "CAGACC"

[illegible]

20

(2) INFORMATION FOR SEQ ID NO:21:

- ```
(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 20 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:
 (B) CLONE: 007-1
```

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:

CATGAGTAAG AAGCATCCGG

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 20 base pairs

20

(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:  
(B) CLONE: 007-1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:22:

CCATGGAGTC ATAGATAAGT

20

(2) INFORMATION FOR SEQ ID NO:23:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:  
(B) CLONE: 007-1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:23:

ACTTATCTAT GACTCCATGG

20

(2) INFORMATION FOR SEQ ID NO:24:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

0984666-050401

- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: Equus caballus
- (vii) IMMEDIATE SOURCE:
  - (B) CLONE: 007-1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:24:

CCGGATGCTT CTTACTCATG

20

(2) INFORMATION FOR SEQ ID NO:25:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 20 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: Equus caballus
- (vii) IMMEDIATE SOURCE:
  - (B) CLONE: 324-2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:

CCCAAGAACA GGATTGAGTT

20

(2) INFORMATION FOR SEQ ID NO:26:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 20 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: Equus caballus
- (vii) IMMEDIATE SOURCE:

(B) CLONE: 324-2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:

AGCGAGTGTGTC AGAGTTGTGT

20

(2) INFORMATION FOR SEQ ID NO:27:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:

(B) CLONE: 324-2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:

ACACAACCTCT GACACTCGCT

20

(2) INFORMATION FOR SEQ ID NO:28:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:

(B) CLONE: 324-2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:28:

AACTCAATCC TGTTCCTGGG

20

T07050"034860

(2) INFORMATION FOR SEQ ID NO:29:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:

- (B) CLONE: 177-3

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:29:

AGCAAGAAA TGGGGGGCCTT

20

(2) INFORMATION FOR SEQ ID NO:30:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:

- (B) CLONE: 177-3

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:30:

GTCCTACAAT TGCCAGGAAG

20

(2) INFORMATION FOR SEQ ID NO:31:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: Equus caballus
- (vii) IMMEDIATE SOURCE:
  - (B) CLONE: 177-3

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:31:

CTTCCTGGCA ATTGTAGGAC

20

(2) INFORMATION FOR SEQ ID NO:32:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 20 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: Equus caballus
- (vii) IMMEDIATE SOURCE:
  - (B) CLONE: 177-3

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:32:

AAGGCCCCC ATTTCTTGCT

20

(2) INFORMATION FOR SEQ ID NO:33:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 20 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO



(vi) ORIGINAL SOURCE:  
(A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:  
(B) CLONE: 595-1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:33:

GAATATCAAT ATATATATAT

20

(2) INFORMATION FOR SEQ ID NO:34:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:  
(B) CLONE: 595-1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:34:

TGTGTGTGTG TGTATTGCT

20

(2) INFORMATION FOR SEQ ID NO:35:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:  
(B) CLONE: 595-1

T0050 0344860

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:35:

AGCAAATACA CACACACACA

20

(2) INFORMATION FOR SEQ ID NO:36:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:

(B) CLONE: 595-1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:36:

ATATATATAT ATTGATATTC

20

(2) INFORMATION FOR SEQ ID NO:37:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:

(B) CLONE: 007-3

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:37:

GCCATAATTA AGCCTGTATT

20

(2) INFORMATION FOR SEQ ID NO:38:

(i) SEQUENCE CHARACTERISTICS:

094634360

| Fitted Parameters |        | Standard Deviations |        |
|-------------------|--------|---------------------|--------|
| Parameter         | Value  | Parameter           | Value  |
| $\alpha_1$        | 0.0000 | $\sigma_1$          | 0.0000 |
| $\alpha_2$        | 0.0000 | $\sigma_2$          | 0.0000 |
| $\alpha_3$        | 0.0000 | $\sigma_3$          | 0.0000 |
| $\alpha_4$        | 0.0000 | $\sigma_4$          | 0.0000 |
| $\alpha_5$        | 0.0000 | $\sigma_5$          | 0.0000 |
| $\alpha_6$        | 0.0000 | $\sigma_6$          | 0.0000 |
| $\alpha_7$        | 0.0000 | $\sigma_7$          | 0.0000 |
| $\alpha_8$        | 0.0000 | $\sigma_8$          | 0.0000 |
| $\alpha_9$        | 0.0000 | $\sigma_9$          | 0.0000 |
| $\alpha_{10}$     | 0.0000 | $\sigma_{10}$       | 0.0000 |
| $\alpha_{11}$     | 0.0000 | $\sigma_{11}$       | 0.0000 |
| $\alpha_{12}$     | 0.0000 | $\sigma_{12}$       | 0.0000 |
| $\alpha_{13}$     | 0.0000 | $\sigma_{13}$       | 0.0000 |
| $\alpha_{14}$     | 0.0000 | $\sigma_{14}$       | 0.0000 |
| $\alpha_{15}$     | 0.0000 | $\sigma_{15}$       | 0.0000 |
| $\alpha_{16}$     | 0.0000 | $\sigma_{16}$       | 0.0000 |
| $\alpha_{17}$     | 0.0000 | $\sigma_{17}$       | 0.0000 |
| $\alpha_{18}$     | 0.0000 | $\sigma_{18}$       | 0.0000 |
| $\alpha_{19}$     | 0.0000 | $\sigma_{19}$       | 0.0000 |
| $\alpha_{20}$     | 0.0000 | $\sigma_{20}$       | 0.0000 |
| $\alpha_{21}$     | 0.0000 | $\sigma_{21}$       | 0.0000 |
| $\alpha_{22}$     | 0.0000 | $\sigma_{22}$       | 0.0000 |
| $\alpha_{23}$     | 0.0000 | $\sigma_{23}$       | 0.0000 |
| $\alpha_{24}$     | 0.0000 | $\sigma_{24}$       | 0.0000 |
| $\alpha_{25}$     | 0.0000 | $\sigma_{25}$       | 0.0000 |
| $\alpha_{26}$     | 0.0000 | $\sigma_{26}$       | 0.0000 |
| $\alpha_{27}$     | 0.0000 | $\sigma_{27}$       | 0.0000 |
| $\alpha_{28}$     | 0.0000 | $\sigma_{28}$       | 0.0000 |
| $\alpha_{29}$     | 0.0000 | $\sigma_{29}$       | 0.0000 |
| $\alpha_{30}$     | 0.0000 | $\sigma_{30}$       | 0.0000 |
| $\alpha_{31}$     | 0.0000 | $\sigma_{31}$       | 0.0000 |
| $\alpha_{32}$     | 0.0000 | $\sigma_{32}$       | 0.0000 |
| $\alpha_{33}$     | 0.0000 | $\sigma_{33}$       | 0.0000 |
| $\alpha_{34}$     | 0.0000 | $\sigma_{34}$       | 0.0000 |
| $\alpha_{35}$     | 0.0000 | $\sigma_{35}$       | 0.0000 |
| $\alpha_{36}$     | 0.0000 | $\sigma_{36}$       | 0.0000 |
| $\alpha_{37}$     | 0.0000 | $\sigma_{37}$       | 0.0000 |
| $\alpha_{38}$     | 0.0000 | $\sigma_{38}$       | 0.0000 |
| $\alpha_{39}$     | 0.0000 | $\sigma_{39}$       | 0.0000 |
| $\alpha_{40}$     | 0.0000 | $\sigma_{40}$       | 0.0000 |
| $\alpha_{41}$     | 0.0000 | $\sigma_{41}$       | 0.0000 |
| $\alpha_{42}$     | 0.0000 | $\sigma_{42}$       | 0.0000 |
| $\alpha_{43}$     | 0.0000 | $\sigma_{43}$       | 0.0000 |
| $\alpha_{44}$     | 0.0000 | $\sigma_{44}$       | 0.0000 |
| $\alpha_{45}$     | 0.0000 | $\sigma_{45}$       | 0.0000 |
| $\alpha_{46}$     | 0.0000 | $\sigma_{46}$       | 0.0000 |
| $\alpha_{47}$     | 0.0000 | $\sigma_{47}$       | 0.0000 |
| $\alpha_{48}$     | 0.0000 | $\sigma_{48}$       | 0.0000 |
| $\alpha_{49}$     | 0.0000 | $\sigma_{49}$       | 0.0000 |
| $\alpha_{50}$     | 0.0000 | $\sigma_{50}$       | 0.0000 |
| $\alpha_{51}$     | 0.0000 | $\sigma_{51}$       | 0.0000 |
| $\alpha_{52}$     | 0.0000 | $\sigma_{52}$       | 0.0000 |
| $\alpha_{53}$     | 0.0000 | $\sigma_{53}$       | 0.0000 |
| $\alpha_{54}$     | 0.0000 | $\sigma_{54}$       | 0.0000 |
| $\alpha_{55}$     | 0.0000 | $\sigma_{55}$       | 0.0000 |
| $\alpha_{56}$     | 0.0000 | $\sigma_{56}$       | 0.0000 |
| $\alpha_{57}$     | 0.0000 | $\sigma_{57}$       | 0.0000 |
| $\alpha_{58}$     | 0.0000 | $\sigma_{58}$       | 0.0000 |
| $\alpha_{59}$     | 0.0000 | $\sigma_{59}$       | 0.0000 |
| $\alpha_{60}$     | 0.0000 | $\sigma_{60}$       | 0.0000 |
| $\alpha_{61}$     | 0.0000 | $\sigma_{61}$       | 0.0000 |
| $\alpha_{62}$     | 0.0000 | $\sigma_{62}$       | 0.0000 |
| $\alpha_{63}$     | 0.0000 | $\sigma_{63}$       | 0.0000 |
| $\alpha_{64}$     | 0.0000 | $\sigma_{64}$       | 0.0000 |
| $\alpha_{65}$     | 0.0000 | $\sigma_{65}$       | 0.0000 |
| $\alpha_{66}$     | 0.0000 | $\sigma_{66}$       | 0.0000 |
| $\alpha_{67}$     | 0.0000 | $\sigma_{67}$       | 0.0000 |
| $\alpha_{68}$     | 0.0000 | $\sigma_{68}$       | 0.0000 |
| $\alpha_{69}$     | 0      |                     |        |

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(vii) IMMEDIATE SOURCE:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:38:

20

(i) SEQUENCE CHARACTERISTICS:

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: *Equus caballus*

(vii) IMMEDIATE SOURCE:

(B) CLONE: 007-3

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:39:

20

(2) INFORMATION FOR SEQ ID NO:40:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: Equus caballus
- (vii) IMMEDIATE SOURCE:
  - (B) CLONE: 007-3

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:40:

AATACAGGCT TAATTATGGC

20

(2) INFORMATION FOR SEQ ID NO:41:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 20 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: Equus caballus
- (vii) IMMEDIATE SOURCE:
  - (B) CLONE: 459-1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:41:

GTGTAGAGTA GTTCAAGGAC

20

(2) INFORMATION FOR SEQ ID NO:42:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 20 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: Equus caballus

TOPOLOGY: linear

| Table 1. Demographic characteristics of the study population |                |
|--------------------------------------------------------------|----------------|
| Age (years)                                                  | Mean (SD)      |
| Male                                                         | 58.5 (10.5)    |
| Female                                                       | 59.5 (11.5)    |
| Marital status                                               |                |
| Married                                                      | 75.5%          |
| Single                                                       | 24.5%          |
| Education (years)                                            | Mean (SD)      |
| Male                                                         | 12.5 (2.5)     |
| Female                                                       | 12.5 (2.5)     |
| Occupation                                                   |                |
| Professional                                                 | 35.5%          |
| Managerial                                                   | 25.5%          |
| Technical                                                    | 15.5%          |
| Service                                                      | 15.5%          |
| Unemployed                                                   | 5.5%           |
| Income (US\$)                                                | Mean (SD)      |
| Male                                                         | 15,000 (5,000) |
| Female                                                       | 15,000 (5,000) |
| Health insurance                                             |                |
| Yes                                                          | 85.5%          |
| No                                                           | 14.5%          |
| Smoking status                                               |                |
| Smoker                                                       | 25.5%          |
| Non-smoker                                                   | 74.5%          |
| Alcohol consumption                                          |                |
| Yes                                                          | 15.5%          |
| No                                                           | 84.5%          |
| Family size                                                  | Mean (SD)      |
| Male                                                         | 3.5 (1.5)      |
| Female                                                       | 3.5 (1.5)      |
| Number of children                                           | Mean (SD)      |
| Male                                                         | 2.5 (1.5)      |
| Female                                                       | 2.5 (1.5)      |
| Number of grandchildren                                      | Mean (SD)      |
| Male                                                         | 1.5 (1.5)      |
| Female                                                       | 1.5 (1.5)      |
| Number of great-grandchildren                                | Mean (SD)      |
| Male                                                         | 0.5 (1.5)      |
| Female                                                       | 0.5 (1.5)      |
| Number of great-great-grandchildren                          | Mean (SD)      |
| Male                                                         | 0.1 (1.5)      |
| Female                                                       | 0.1 (1.5)      |

ATGTCTTATA CCTCCCTTTT

20

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 20 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: *Equus caballus*

(vii) IMMEDIATE SOURCE:  
(B) CLONE: 459-1

AAAAGGGAGG TATAAGACAT

20

(2) INFORMATION FOR SEQ ID NO:44:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: *Equus caballus*

(vii) IMMEDIATE SOURCE:  
(B) CLONE: 459-1

GTCCTTGAAC TACTCTACAC

20

(2) INFORMATION FOR SEQ ID NO:45:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:

(B) CLONE: 085-1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:45:

GTGAACGGAG AGCAGGCCTT

20

(2) INFORMATION FOR SEQ ID NO:46:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:

(B) CLONE: 085-1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:46:

CCTGCTGAAG CCTCAGACCG

20

(2) INFORMATION FOR SEQ ID NO:47:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single

- (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:  
    (A) ORGANISM: Equus caballus
- (vii) IMMEDIATE SOURCE:  
    (B) CLONE: 085-1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:47:

CGGTCTGAGG CTTCAGCAGG

20

(2) INFORMATION FOR SEQ ID NO:48:

- (i) SEQUENCE CHARACTERISTICS:  
    (A) LENGTH: 20 base pairs  
    (B) TYPE: nucleic acid  
    (C) STRANDEDNESS: single  
    (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:  
    (A) ORGANISM: Equus caballus
- (vii) IMMEDIATE SOURCE:  
    (B) CLONE: 085-1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:48:

AAGGCCTGCT CTCCGTTTAC

20

(2) INFORMATION FOR SEQ ID NO:49:

- (i) SEQUENCE CHARACTERISTICS:  
    (A) LENGTH: 20 base pairs  
    (B) TYPE: nucleic acid  
    (C) STRANDEDNESS: single  
    (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:  
(B) CLONE: 007-2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:49:

CTGCTCTTTA GACTATGACC

20

(2) INFORMATION FOR SEQ ID NO:50:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:  
(B) CLONE: 007-2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:50:

TCAACCTTGC ATCATGAGCT

20

(2) INFORMATION FOR SEQ ID NO:51:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:  
(B) CLONE: 007-2

094633-050101



(xi) SEQUENCE DESCRIPTION: SEQ ID NO:51:

AGCTCATGAT GCAAGGTTGA

20

(2) INFORMATION FOR SEQ ID NO:52:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:

(B) CLONE: 007-2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:52:

GGTCATAGTC TAAAGAGCAG

20

(2) INFORMATION FOR SEQ ID NO:53:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:

(B) CLONE: 474-1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:53:

TTTGAGCTGG GACCTCAGTC

20

(2) INFORMATION FOR SEQ ID NO:54:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 20 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: Equus caballus
- (vii) IMMEDIATE SOURCE:
  - (B) CLONE: 474-1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:54:

TCTCCTGCCT TTAGACTCGA

20

(2) INFORMATION FOR SEQ ID NO:55:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 20 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: Equus caballus
- (vii) IMMEDIATE SOURCE:
  - (B) CLONE: 474-1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:55:

TCGAGTCTAA AGGCAGGAGA

20

(2) INFORMATION FOR SEQ ID NO:56:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 20 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)

09463630.0501

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: *Equus caballus*

(vii) IMMEDIATE SOURCE:

(B) CLONE: 474-1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:56:

GACTGAGGTC CCAGCTCAAA

20

(2) INFORMATION FOR SEQ ID NO:57:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: *Equus caballus*

(vii) IMMEDIATE SOURCE:

(B) CLONE: 178-1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:57:

GAACCTCTGG GCCGTGGATA

20

(2) INFORMATION FOR SEQ ID NO:58:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: *Equus caballus*

(vii) IMMEDIATE SOURCE:  
(B) CLONE: 178-1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:58:

TTGTTTCAGAA GCACAGGTGA

20

(2) INFORMATION FOR SEQ ID NO:59:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:  
(B) CLONE: 178-1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:59:

TCACCTGTGC TTCTGAACAA

20

(2) INFORMATION FOR SEQ ID NO:60:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:  
(B) CLONE: 178-1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:60:

20250423 15:46:50

TATCCACGGC CCAGAGGTTTC

20

(2) INFORMATION FOR SEQ ID NO:61:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:

- (B) CLONE: 595-2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:61:

GTATTTGCTA GCTCTGGGAT

20

(2) INFORMATION FOR SEQ ID NO:62:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:

- (B) CLONE: 595-2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:62:

ATCCACTAAT GAGGGAAAAA

20

(2) INFORMATION FOR SEQ ID NO:63:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid

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- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:

(B) CLONE: 595-2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:63:

TTTTTCCCTC ATTAGTGGAT

20

(2) INFORMATION FOR SEQ ID NO:64:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:

(B) CLONE: 595-2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:64:

ATCCCAGAGC TAGCAAATAC

20

(2) INFORMATION FOR SEQ ID NO:65:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:

(B) CLONE: 177-1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:65:

GAAGTTGTGG GACAGATGTG

20

(2) INFORMATION FOR SEQ ID NO:66:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:

(B) CLONE: 177-1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:66:

AGAGATGCAG CTCTAAGTGC

20

(2) INFORMATION FOR SEQ ID NO:67:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:

(B) CLONE: 177-1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:67:

GCACTTAGAG CTGCATCTCT

20

(2) INFORMATION FOR SEQ ID NO:68:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:

(B) CLONE: 177-1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:68:

CACATCTGTC CCACAACTTC

20

(2) INFORMATION FOR SEQ ID NO:69:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Equus caballus

(vii) IMMEDIATE SOURCE:

(B) CLONE: 459-2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:69:

CCATGAGGAA GCCTCCACAA

20

(2) INFORMATION FOR SEQ ID NO:70:





- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: Equus caballus
- (vii) IMMEDIATE SOURCE:
  - (B) CLONE: 459-2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:72:

TTGTGGAGGC TTCCTCATGG

20

(2) INFORMATION FOR SEQ ID NO:73:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 24 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: Homo sapiens
- (vii) IMMEDIATE SOURCE:
  - (B) CLONE: IGKC 2p12

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:73:

AAAGCAGACT ACGAGAAACA CAAA

24

(2) INFORMATION FOR SEQ ID NO:74:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 24 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: Homo sapiens

(vii) IMMEDIATE SOURCE:  
(B) CLONE: IGKC 2p12

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:74:

TCTACGCCTG CGAAGTCACC CATC

24

(2) INFORMATION FOR SEQ ID NO:75:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 24 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: Homo sapiens

(vii) IMMEDIATE SOURCE:  
(B) CLONE: IGKC 2p12

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:75:

GATGGGTGAC TTCGCAGGCG TAGA

24

(2) INFORMATION FOR SEQ ID NO:76:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 24 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: Homo sapiens

(vii) IMMEDIATE SOURCE:  
(B) CLONE: IGKC 2p12



(2) INFORMATION FOR SEQ ID NO:79:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 24 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Homo sapiens

(vii) IMMEDIATE SOURCE:

(B) CLONE: ILIB 2q3-q21

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:79:

ACCTTGGGTG CTGTTCTCTG CCTC

24

(2) INFORMATION FOR SEQ ID NO:80:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 24 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Homo sapiens

(vii) IMMEDIATE SOURCE:

(B) CLONE: ILIB 2q3-q21

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:80:

GGAGCTCTCT GTCAATTGCA GGAG

24

(2) INFORMATION FOR SEQ ID NO:81:

- (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 24 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: Homo sapiens
- (vii) IMMEDIATE SOURCE:
  - (B) CLONE: LDLR 19p13.3

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:81:

CTCCATCTCA AGCATCGATG TCAA

24

(2) INFORMATION FOR SEQ ID NO:82:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 24 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: Homo sapiens
- (vii) IMMEDIATE SOURCE:
  - (B) CLONE: LDLR 19p13.3

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:82:

GGGGGCAACC GGAAGACCAT CTTG

24

(2) INFORMATION FOR SEQ ID NO:83:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 24 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:  
    (A) ORGANISM: Homo sapiens
- (vii) IMMEDIATE SOURCE:  
    (B) CLONE: LDLR 19p13.3
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:83:

CAAGATGGTC TTCCGGTTGC CCCC

24

(2) INFORMATION FOR SEQ ID NO:84:

- (i) SEQUENCE CHARACTERISTICS:  
    (A) LENGTH: 24 base pairs  
    (B) TYPE: nucleic acid  
    (C) STRANDEDNESS: single  
    (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:  
    (A) ORGANISM: Homo sapiens
- (vii) IMMEDIATE SOURCE:  
    (B) CLONE: LDLR 19p13.3
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:84:

TTGACATCGA TGCTTGAGAT GGAG

24

(2) INFORMATION FOR SEQ ID NO:85:

- (i) SEQUENCE CHARACTERISTICS:  
    (A) LENGTH: 24 base pairs  
    (B) TYPE: nucleic acid  
    (C) STRANDEDNESS: single  
    (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: Homo sapiens

(vii) IMMEDIATE SOURCE:  
(B) CLONE: MET-H 7q31

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:85:

GTTTGGTCTA AGTTGCTGAT TACC

24

(2) INFORMATION FOR SEQ ID NO:86:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 24 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: Homo sapiens

(vii) IMMEDIATE SOURCE:  
(B) CLONE: MET-H 7q31

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:86:

GGATTTTTCT GACGATCTTT CAAC

24

(2) INFORMATION FOR SEQ ID NO:87:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 24 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: Homo sapiens

(vii) IMMEDIATE SOURCE:





GCTGACAGCG GCCCACTGCA TGGA

24

(2) INFORMATION FOR SEQ ID NO:90:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 24 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens

(vii) IMMEDIATE SOURCE:

- (B) CLONE: PROC 2q13-q21

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:90:

GAGTCCAAGA AGCTCCTTGT CAGG

24

(2) INFORMATION FOR SEQ ID NO:91:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 24 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens

(vii) IMMEDIATE SOURCE:

- (B) CLONE: PROC 2q13-q21

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:91:

CCTGACAAGG AGCTTCTTGG ACTC

24

(2) INFORMATION FOR SEQ ID NO:92:



- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: Homo sapiens
- (vii) IMMEDIATE SOURCE:
  - (B) CLONE: MET-H 7q31
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:94:

CCATTTTGT GTCTTCTAGT CTAAGG

26

(2) INFORMATION FOR SEQ ID NO:95:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 23 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: Homo sapiens
- (vii) IMMEDIATE SOURCE:
  - (B) CLONE: MET-H 7q31
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:95:

TTGAAAGATC GTCAGAAAAA TCC

23

0984563-DE04